



# STIC Search Report

## Biotech-Chem Library

STIC Database Tracking Number: 94636

TO: Padmavathi Baskar  
Location: CM1-8E12  
Wednesday, May 21, 2003

Case Serial Number: 10/066551

From: Beverly Shears  
Location: Biotech-Chem Library  
CM1-1E05  
Phone: 308-4994

[beverly.shears@uspto.gov](mailto:beverly.shears@uspto.gov)

### Search Notes

10/066551

FILE 'REGISTRY' ENTERED AT 12:02:02 ON 21 MAY 2003

L3 E PROTEIN P177/CN  
1 S E4  
E PROTEIN P88/CN 5  
L4 1 S E4  
E PROTEIN P64/CN 5  
L5 1 S E5  
E PROTEIN P55/CN 5  
L6 1 S E6  
E PROTEIN P46/CN 5  
L7 1 S E10  
L8 5 S L3 OR L4 OR L5 OR L6 OR L7

- key terms

FILE 'HCAPLUS' ENTERED AT 12:03:35 ON 21 MAY 2003

L1 4102 SEA FILE=HCAPLUS ABB=ON PLU=ON (NEISSER? OR N) (W) GONORR  
H?  
L2 3 SEA FILE=HCAPLUS ABB=ON PLU=ON L1 AND (P177 OR P88 OR  
P64 OR P55 OR P46)  
  
L3 1 SEA FILE=REGISTRY ABB=ON PLU=ON "PROTEIN P177 (NEISSERI  
A GONORRHOEAE)"/CN  
L4 1 SEA FILE=REGISTRY ABB=ON PLU=ON "PROTEIN P88 (NEISSERIA  
GONORRHOEAE)"/CN  
L5 1 SEA FILE=REGISTRY ABB=ON PLU=ON "PROTEIN P64 (NEISSERIA  
GONORRHOEAE)"/CN  
L6 1 SEA FILE=REGISTRY ABB=ON PLU=ON "PROTEIN P55 (NEISSERIA  
GONORRHOEAE)"/CN  
L7 1 SEA FILE=REGISTRY ABB=ON PLU=ON "PROTEIN P46 (NEISSERIA  
GONORRHOEAE)"/CN  
L8 5 SEA FILE=REGISTRY ABB=ON PLU=ON L3 OR L4 OR L5 OR L6  
OR L7  
L9 1 SEA FILE=HCAPLUS ABB=ON PLU=ON L8  
  
L10 3 S L2 OR L9

L10 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2002:594879 HCAPLUS

DOCUMENT NUMBER: 137:168251

TITLE: Vaccine and complement CR3 antagonists for the  
prevention and treatment of gonorrheaINVENTOR(S): Apicella, Michael A.; Edwards, Jennifer L.;  
Gibson, Bradford W.; Scheffler, Karoline; Brown,  
EricPATENT ASSIGNEE(S): University of Iowa Research Foundation, USA;  
University of CaliforniaSOURCE: PCT Int. Appl., 130 pp.  
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002060936	A2	20020808	WO 2002-US2881	20020131
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,				

Searcher : Shears 308-4994

10/066551

CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD,  
GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ,  
LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,  
NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ,  
TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM,  
AZ, BY, KG, KZ, MD, RU, TJ, TM  
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE,  
CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT,  
SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,  
SN, TD, TG

PRIORITY APPLN. INFO.: US 2001-266070P P 20010131  
US 2001-310356P P 20010806  
US 2001-344452P P 20011023

AB The present invention is directed to polypeptides, polynucleotides  
and vaccines for use against **Neisseria gonorrhoeae**  
colonization or infection. In addn., the use of antagonists of  
complement receptor CR3 is demonstrated.

IT 446081-39-6, Protein p177 (**Neisseria**  
**gonorrhoeae**) 446081-41-0, Protein p88 (  
**Neisseria gonorrhoeae**) 446081-43-2,  
Protein p64 (**Neisseria gonorrhoeae**)  
446081-45-4, Protein p55 (**Neisseria**  
**gonorrhoeae**) 446081-47-6, Protein p46 (  
**Neisseria gonorrhoeae**)

RL: BSU (Biological study, unclassified); PRP (Properties); THU  
(Therapeutic use); BIOL (Biological study); USES (Uses)  
(amino acid sequence; vaccine and complement CR3 antagonists for  
the prevention and treatment of gonorrhea)

L10 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1999:344861 HCAPLUS  
DOCUMENT NUMBER: 131:4240  
TITLE: Immunoglobulin molecules having a synthetic  
variable region and modified specificity  
INVENTOR(S): Burch, Ronald M.  
PATENT ASSIGNEE(S): Euro-Celtique, S.A., Bermuda  
SOURCE: PCT Int. Appl., 123 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9925378	A1	19990527	WO 1998-US24302	19981113
W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ,			
	DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS,			
	JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG,			
	MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK,			
	SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG,			
	KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK,			
	ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,			
	CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
CA 2309990	AA	19990527	CA 1998-2309990	19981113
CA 2310269	AA	19990527	CA 1998-2310269	19981113
WO 9925379	A1	19990527	WO 1998-US24303	19981113

Searcher : Shears 308-4994

10/066551

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ,  
DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS,  
JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG,  
MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK,  
SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG,  
KZ, MD, RU, TJ, TM  
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK,  
ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,  
CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG  
AU 9914597 A1 19990607 AU 1999-14597 19981113  
AU 9914598 A1 19990607 AU 1999-14598 19981113  
AU 737457 B2 20010823  
EP 1030684 A1 20000830 EP 1998-958584 19981113  
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,  
PT, IE, FI  
EP 1032420 A1 20000906 EP 1998-958583 19981113  
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,  
PT, IE, FI  
JP 2001526021 T2 20011218 JP 2000-520811 19981113  
BR 9815289 A 20011226 BR 1998-15289 19981113  
BR 9815580 A 20020129 BR 1998-15580 19981113  
JP 2002507544 T2 20020312 JP 2000-520812 19981113  
ZA 9900048 A 19990708 ZA 1999-48 19990105  
ZA 9900049 A 20000309 ZA 1999-49 19990105  
US 2002028469 A1 20020307 US 2001-963232 20010926  
WO 2003026879 A2 20030403 WO 2002-US27446 20020828  
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,  
CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD,  
GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ,  
LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,  
NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ,  
TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ,  
BY, KG, KZ, MD, RU, TJ, TM  
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE,  
BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU,  
MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ,  
GW, ML, MR, NE, SN, TD, TG  
PRIORITY APPLN. INFO.: US 1997-65716P P 19971114  
US 1998-81403P P 19980410  
US 1998-191780 A1 19981113  
WO 1998-US24302 W 19981113  
WO 1998-US24303 W 19981113  
US 2001-963232 A 20010926  
AB The invention provides modified Ig mols., particularly antibodies,  
that immunospecifically bind a first member of a binding pair which  
binding pair consists of the first member and a second member, which  
Igs have a variable domain contg. one or more complimentary detg.  
regions that contain the amino acid sequence of a binding site for  
the second member of the binding pair. The first member is a tumor  
antigen or an antigen of an infectious disease agent, and the second  
member is a mol. on the surface of an immune cell. The invention  
further provides for therapeutic and diagnostic use of the modified  
Ig.  
REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L10 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2003 ACS

Searcher : Shears 308-4994

10/066551

ACCESSION NUMBER: 1996:641431 HCAPLUS  
DOCUMENT NUMBER: 126:4275  
TITLE: Temperature- and medium-dependent secretion of  
proteins by Shiga toxin-producing *Escherichia coli*  
AUTHOR(S): Ebel, Frank; Deibel, Christina; Kresse, Andreas  
U.; Guzman, Carlos A.; Chakraborty, Trinad  
CORPORATE SOURCE: Inst. Medi. Mikrobiologie, Justus-Liebig-Univ.,  
Giessen, D-35392, Germany  
SOURCE: Infection and Immunity (1996), 64(11), 4472-4479  
CODEN: INFIBR; ISSN: 0019-9567  
PUBLISHER: American Society for Microbiology  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB Infections due to Shiga toxin-producing *Escherichia coli* (STEC) are responsible for severe diarrheal disease in humans and livestock, and these bacteria have recently emerged as a leading cause of renal failure in children. In this study, we have examd. medium- and temp.-dependent prodn. of secreted proteins from a STEC O26 serotype strain. Growth of bacteria in Luria broth led to the detection of secreted polypeptides of 104, 55, 54, and 37 kDa (p104, p55, p54, and p37, resp.). When grown in serum-free tissue culture medium, only p104, p37 and two addnl. polypeptides of 25 and 22 kDa (p25 and p22) were present in supernatant fluids. Prodn. of these polypeptides was growth temp. dependent and induced in cultures grown at 37.degree.. N-terminal amino acid sequencing revealed that p104 was homologous to the secreted p110 of enteropathogenic *Escherichia coli* (EPEC), and both proteins belong to a family of secreted proteins in pathogenic bacteria of which the IgA protease of *Neisseria gonorrhoeae* is the prototype. The N-terminal amino acid sequences of p55 and p54 were unique to the STEC strain, while p37 and p25 were highly homologous to the similarly sized EspA and EspB proteins, previously detected in culture supernatants of EPEC. Mol. cloning and sequencing of STEC espB alleles from two different serotypes showed that the encoded polypeptides were about 80% homologous. A monoclonal antibody raised against STEC EspB also cross-reacted with its EPEC analog and allowed us to demonstrate medium- and temp.-dependent prodn. of this important virulence factor in STEC and EPEC strains of differing serotypes.

(FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH, JICST-EPLUS, JAPIO' ENTERED AT 12:05:49 ON 21 MAY 2003)

L11 5 S L10  
L12 2 DUP REM L11 (3 DUPLICATES REMOVED)

L12 ANSWER 1 OF 2 WPIDS (C) 2003 THOMSON DERWENT

ACCESSION NUMBER: 2002-619227 [66] WPIDS  
DOC. NO. CPI: C2002-174981  
TITLE: New polypeptide comprising p177,  
p88, p64, p55 or  
p46 from *Neisseria gonorrhoeae*, useful for preventing, or  
protecting a female patient against, *N. gonorrhoeae* colonization or infection.  
DERWENT CLASS: B04 D16  
INVENTOR(S): APICELLA, M A; BROWN, E; EDWARDS, J L; GIBSON, B W;  
SCHEFFLER, K

Searcher : Shears 308-4994

10/066551

PATENT ASSIGNEE(S): (APIC-I) APICELLA M A; (BROW-I) BROWN E; (EDWA-I) EDWARDS J L; (GIBS-I) GIBSON B W; (SCHE-I) SCHEFFLER K; (REGC) UNIV CALIFORNIA; (IOWA) UNIV IOWA RES FOUND

COUNTRY COUNT: 100

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2002060936	A2	20020808	(200266)*	EN	130
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC					
MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ					
DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP					
KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ					
NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ					
UA UG US UZ VN YU ZA ZM ZW					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2002060936	A2	WO 2002-US2881	20020131

PRIORITY APPLN. INFO: US 2001-344452P 20011023; US 2001-266070P 20010131; US 2001-310356P 20010806

AN 2002-619227 [66] WPIDS

AB WO 200260936 A UPAB: 20021014

NOVELTY - A new polypeptide (P1) comprising p177,

p88, p64, p55 or p46 from

*Neisseria gonorrhoeae*, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) a polynucleotide (N1) comprising a sequence encoding (P1);  
(2) a vaccine (V) comprising (P1) that is operably linked to a transcriptional promoter and a non-toxic vehicle for immunizing a susceptible female patient against gonorrhea;

(3) a method of preventing, or protecting a female patient against, *N. gonorrhoeae* colonization or infection;

(4) an inhibitor (Ihb) comprising a recombinant murine I-domain from an alpha -subunit of a complement receptor type 3 (CR3) encoded by a sequence having 199 base pairs (bp);

(5) a nucleic acid (N2) encoding the recombinant murine I-domain;

(6) a composition (C) comprising the inhibitor (Ihb) and a carrier; or

(7) a method of inhibiting invasion of *N. gonorrhoeae* into a host cell in a patient.

ACTIVITY - Antibacterial.

Cervical cells were infected with 107 *N.*

*gonorrhoeae* strain 1291. The results showed that as little as 1 ng of rI-domain gave over 90% inhibition of invasion of primary human ectocervical cells by *N. gonorrhoeae*.

MECHANISM OF ACTION - Vaccine; CR3-Inhibitor.

USE - The vaccine or the compound of the invention is useful for preventing, or protecting a female patient against, *N.*

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gonorrhoeae colonization or infection (claimed).  
Dwg.0/11

L12 ANSWER 2 OF 2 MEDLINE DUPLICATE 1  
ACCESSION NUMBER: 97045129 MEDLINE  
DOCUMENT NUMBER: 97045129 PubMed ID: 8890194  
TITLE: Temperature- and medium-dependent secretion of  
proteins by Shiga toxin-producing Escherichia coli.  
AUTHOR: Ebel F; Deibel C; Kresse A U; Guzman C A; Chakraborty  
T  
CORPORATE SOURCE: Institut fur Medizinische Mikrobiologie,  
Justus-Liebig-Universitat Giessen, Germany.  
SOURCE: INFECTION AND IMMUNITY, (1996 Nov) 64 (11) 4472-9.  
Journal code: 0246127. ISSN: 0019-9567.  
PUB. COUNTRY: United States  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
OTHER SOURCE: GENBANK-X96953; GENBANK-X99670  
ENTRY MONTH: 199701  
ENTRY DATE: Entered STN: 19970128  
Last Updated on STN: 19970128  
Entered Medline: 19970106

AB Infections due to Shiga toxin-producing Escherichia coli (STEC) are responsible for severe diarrheal disease in humans and livestock, and these bacteria have recently emerged as a leading cause of renal failure in children. In this study, we have examined medium- and temperature-dependent production of secreted proteins from a STEC O26 serotype strain. Growth of bacteria in Luria broth led to the detection of secreted polypeptides of 104, 55, 54, and 37 kDa (p104, p55, p54, and p37, respectively). When grown in serum-free tissue culture medium, only p104, p37 and two additional polypeptides of 25 and 22 kDa (p25 and p22) were present in supernatant fluids. Production of these polypeptides was growth temperature dependent and induced in cultures grown at 37 degrees C. N-terminal amino acid sequencing revealed that p104 was homologous to the secreted p110 of enteropathogenic Escherichia coli (EPEC), and both proteins belong to a family of secreted proteins in pathogenic bacteria of which the immunoglobulin A protease of *Neisseria gonorrhoeae* is the prototype. The N-terminal amino acid sequences of p55 and p54 were unique to the STEC strain, while p37 and p25 were found to be highly homologous to the similarly sized EspA and EspB proteins, previously detected in culture supernatants of EPEC. Molecular cloning and sequencing of STEC espB alleles from two different serotypes showed that the encoded polypeptides were about 80% homologous. A monoclonal antibody raised against STEC EspB also cross-reacted with its EPEC analog and allowed us to demonstrate medium- and temperature-dependent production of this important virulence factor in STEC and EPEC strains of differing serotypes.

(FILE 'USPATFULL' ENTERED AT 12:06:39 ON 21 MAY 2003)

L14 1 S L1(S) (P177 OR P88 OR P64 OR P55 OR P46)  
L15 0 S L8

L14 ANSWER 1 OF 1 USPATFULL  
ACCESSION NUMBER: 2002:34310 USPATFULL  
TITLE: Compounds

Searcher : Shears 308-4994

10/066551

INVENTOR(S): Black, Michael Terence, Chester Springs, PA,  
United States  
Hodgson, John Edward, Malvern, PA, United States  
Knowles, David Justin Charles, Boroughbridge,  
UNITED KINGDOM  
Nicholas, Richard Oakley, Collegeville, PA,  
United States  
Stodola, Robert King, Flourtown, PA, United  
States  
PATENT ASSIGNEE(S): SmithKline Beecham Corporation, Philadelphia, PA,  
United States (U.S. corporation)  
SmithKline Beecham plc., UNITED KINGDOM (non-U.S.  
corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6348328	B1	20020219
APPLICATION INFO.:	US.1997-858207		19970514 (8)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	GRANTED		
PRIMARY EXAMINER:	Martinell, James		
LEGAL REPRESENTATIVE:	Gimmi, Edward R., Deibert, Thomas S., King, William T.		
NUMBER OF CLAIMS:	22		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	0 Drawing Figure(s); 0 Drawing Page(s)		
LINE COUNT:	2021		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB This invention relates to newly identified polynucleotides, polypeptides encoded by such polynucleotides, the uses of such polynucleotides and polypeptides, as well as the production of such polynucleotides and polypeptides and recombinant host cells transformed with the polynucleotides. This invention also relates to inhibiting the biosynthesis or action of such polynucleotides or polypeptides and to the use of such inhibitors in therapy.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

INCL INCLM: 435/069.100  
INCLS: 435/320.100; 435/252.300; 536/023.100; 536/023.700  
NCL NCLM: 435/069.100  
NCLS: 435/252.300; 435/320.100; 536/023.100; 536/023.700

(FILE 'HCAPLUS, MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH, JICST-EPLUS, JAPIO, USPATFULL' ENTERED AT 12:09:29 ON 21 MAY 2003)

L16 1042 S "APICELLA M"?/AU  
L17 16096 S "EDWARDS J"?/AU  
L18 2667 S "GIBSON B"?/AU  
L19 603 S "SCHEFFLER K"?/AU  
L20 14434 S "BROWN E"?/AU  
L21 2 S L16 AND L17 AND L18 AND L19 AND L20  
L22 195 S L16 AND (L17 OR L18 OR L19 OR L20)  
L23 14 S L17 AND (L18 OR L19 OR L20)  
L24 2 S L18 AND (L19 OR L20)  
L25 2 S L19 AND L20

L27 396 S (L22 OR L16 OR L17 OR L18 OR L19 OR L20) AND L1  
L28 2 S L27 AND (P177 OR P88 OR P64 OR P55 OR P46)

Author (S)

Searcher : Shears 308-4994



10/066551

L29 1 S (L22 OR L16 OR L17 OR L18 OR L19 OR L20) AND L8  
L30 14 S L21 OR L23 OR L24 OR L25 OR L28 OR L29  
L31 6 DUP REM L30 (8 DUPLICATES REMOVED)

L31 ANSWER 1 OF 6 HCAPLUS COPYRIGHT 2003 ACS DUPLICATE 1  
ACCESSION NUMBER: 2002:594879 HCAPLUS  
DOCUMENT NUMBER: 137:168251  
TITLE: Vaccine and complement CR3 antagonists for the  
prevention and treatment of gonorrhea  
INVENTOR(S): Apicella, Michael A.; Edwards,  
Jennifer L.; Gibson, Bradford W.;  
Scheffler, Karoline; Brown, Eric  
PATENT ASSIGNEE(S): University of Iowa Research Foundation, USA;  
University of California  
SOURCE: PCT Int. Appl., 130 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002060936	A2	20020808	WO 2002-US2881	20020131
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
PRIORITY APPLN. INFO.:			US 2001-266070P P 20010131 US 2001-310356P P 20010806 US 2001-344452P P 20011023	
AB	The present invention is directed to polypeptides, polynucleotides and vaccines for use against <b>Neisseria gonorrhoeae</b> colonization or infection. In addn., the use of antagonists of complement receptor CR3 is demonstrated.			

L31 ANSWER 2 OF 6 HCAPLUS COPYRIGHT 2003 ACS DUPLICATE 2  
ACCESSION NUMBER: 2002:738942 HCAPLUS  
DOCUMENT NUMBER: 137:231221  
TITLE: A co-operative interaction between *Neisseria gonorrhoeae* and complement receptor 3 mediates infection of primary cervical epithelial cells  
AUTHOR(S): Edwards, Jennifer L.; Brown, Eric  
J.; Uk-Nham, Sang; Cannon, Janne G.; Blake, Milan S.; Apicella, Michael A.  
CORPORATE SOURCE: Department of Microbiology, The University of Iowa, Iowa City, IA, 52242, USA  
SOURCE: Cellular Microbiology (2002), 4(9), 571-584  
CODEN: CEMIF5; ISSN: 1462-5814  
PUBLISHER: Blackwell Science Ltd.

Searcher : Shears 308-4994

DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB Little is known about the pathogenesis of gonococcal infection within the lower female genital tract. We recently described the distribution of complement receptor 3 (CR3) on epithelia of the female genital tract. Our studies further indicate that CR3-mediated endocytosis serves as a primary mechanism by which *N. gonorrhoeae* elicits membrane ruffling and cellular invasion of primary, human, cervical epithelial cells. We have extended these studies to describe the nature of the gonococcus-CR3 interaction. Western Blot anal. demonstrated prodn. of alternative pathway complement components by ecto- and endocervical cells which allows C3b deposition on gonococci and its rapid conversion to iC3b. Anti-iC3b and -factor I antibodies significantly inhibited adherence and invasion of primary cervical cells, suggesting that iC3b covalently bound to the gonococcus serves as a primary ligand for CR3 adherence. However, gonococcal porin and pili also bound to the I-domain of CR3 in a non-opsonic manner. Binding of porin and pili to CR3 were required for adherence to and invasion of cervical epithelia. Collectively, these data suggest that gonococcal adherence to CR3 occurs in a co-operative manner, which requires gonococcal iC3b-opsonization, porin and pilus. In conjunction, these mols. facilitate targeting to and successful infection of the cervical epithelium.

REFERENCE COUNT: 85 THERE ARE 85 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L31 ANSWER 3 OF 6 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.  
 ACCESSION NUMBER: 2002:585019 BIOSIS  
 DOCUMENT NUMBER: PREV200200585019  
 TITLE: Opsonic and non-opsonic interactions occur between *Neisseria gonorrhoeae* and complement receptor 3 on primary cervical epithelial cells.  
 AUTHOR(S): Edwards, J. L. (1); Brown, E. J.; Uk-Nham, S.; Cannon, J. G.; Blake, M. S.; Apicella, M. A. (1)  
 CORPORATE SOURCE: (1) University of Iowa, Iowa City, IA USA  
 SOURCE: Abstracts of the General Meeting of the American Society for Microbiology, (2002) Vol. 102, pp. 93. <http://www.asmsa.org/mtgsrsrc/generalmeeting.htm>. print.  
 Meeting Info.: 102nd General Meeting of the American Society for Microbiology Salt Lake City, UT, USA May 19-23, 2002 American Society for Microbiology . ISSN: 1060-2011.  
 DOCUMENT TYPE: Conference  
 LANGUAGE: English

AB Little is known about the pathogenesis of gonococcal infection within the lower female genital tract. We recently described the distribution of complement receptor 3 (CR3) within epithelia derived from the female genital tract. CR3-mediated endocytosis was subsequently demonstrated to serve as a primary mechanism by which *N. gonorrhoeae* elicits membrane ruffling and cellular invasion of primary, human, cervical epithelial cells. We have extended these studies to describe the nature of the gonococcus-CR3 interaction. Western Blot analysis demonstrates production of alternative complement components by ecto- and endocervical cells, which allows

C3b deposition on gonococcal lipooligosaccharide (LOS) and its rapid conversion to iC3b. C3 opsonization is independent of the LOS sialylation state and of oligosaccharide side chain length. Quantitative adherence and invasion inhibition assays suggest that iC3b covalently bound to the gonococcus serves as a primary ligand for CR3 adherence, since recombinant I-domain and anti-iC3b and -factor I antibodies significantly inhibit adherence and invasion of primary ecto- and endocervical cells. However, gonococcal porin and pili can also bind to the I-domain of CR3 in a non-opsonic manner as demonstrated by ELISA and Western Blot analysis. The association of the gonococcus with CR3 requires por and pil outer membrane proteins. Although Opa proteins are not required for initiation of gonococcal cervicitis, they may play a role in potentiating infection. Collectively, these data suggest that opsonic and non-opsonic gonococcal adherence to CR3 occurs in a cooperative manner that facilitates targeting to and successful invasion of the cervical epithelium.

L31 ANSWER 4 OF 6 HCAPLUS COPYRIGHT 2003 ACS DUPLICATE 3  
 ACCESSION NUMBER: 2001:711691 HCAPLUS  
 DOCUMENT NUMBER: 136:4467.  
 TITLE: The role of complement receptor 3 (CR3) in  
 Neisseria gonorrhoeae infection of human  
 cervical epithelia  
 AUTHOR(S): Edwards, Jennifer L.; Brown, Eric  
 J.; Ault, Kevin A.; Apicella, Michael A.  
 CORPORATE SOURCE: Department of Microbiology, University of Iowa,  
 Iowa City, IA, 52242, USA  
 SOURCE: Cellular Microbiology (2001), 3(9), 611-622  
 CODEN: CEMIF5; ISSN: 1462-5814  
 PUBLISHER: Blackwell Science Ltd.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB Neisseria gonorrhoeae is an important sexually transmitted pathogen  
 and a major cofactor in HIV-1 infection. This organism uses  
 different mechanisms to infect male and female genital tract  
 epithelia. Receptor-mediated endocytosis of N. gonorrhoeae is the  
 principle mechanism of entry into male urethral epithelial cells.  
 Infection in men leads to a pronounced inflammatory response. In  
 contrast, N. gonorrhoeae infection in women induces ruffling of the  
 cervical epithelia, allowing a macropinocytic mechanism of entry.  
 Infection in women is frequently asymptomatic, suggesting  
 suppression of the inflammatory response. N. gonorrhoeae-induced  
 membrane ruffling and inflammation suppression are consistent with  
 the ability of this bacterium to enter cervical epithelial cells, in  
 vitro and in vivo, by interaction with complement receptor 3 (CR3),  
 a receptor that does not trigger an inflammatory response. This  
 receptor is present on cervical epithelial cells but not on male  
 urogenital tract epithelia. N. gonorrhoeae engagement of CR3  
 initiates a unique mechanism of bacterial-induced membrane ruffling  
 and internalization. These studies explain why the pathol. of N.  
 gonorrhoeae infection differs between males and females. Addnl.,  
 the observation that this receptor is present on cervical epithelia  
 may provide insight into the pathogenesis of other sexually  
 transmitted pathogens.  
 REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE  
 FOR THIS RECORD. ALL CITATIONS AVAILABLE  
 IN THE RE FORMAT

10/066551

L31 ANSWER 5 OF 6 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.  
ACCESSION NUMBER: 2002:201465 BIOSIS  
DOCUMENT NUMBER: PREV200200201465  
TITLE: Complement Receptor Type 3 (CR3) on primary cervical epithelial cells serves as a receptor for *Neisseria gonorrhoeae*.  
AUTHOR(S): Edwards, J. L. (1); Shao, J. (1); Ault, K. (1); Brown, E.; Apicella, M. A. (1)  
CORPORATE SOURCE: (1) University of Iowa, Iowa City, IA USA  
SOURCE: Abstracts of the General Meeting of the American Society for Microbiology, (2001) Vol. 101, pp. 303. <http://www.asmsusa.org/mtgsrc/generalmeeting.htm>. print.  
Meeting Info.: 101st General Meeting of the American Society for Microbiology Orlando, FL, USA May 20-24, 2001  
ISSN: 1060-2011.  
DOCUMENT TYPE: Conference  
LANGUAGE: English

AB Little is known about the pathogenesis of gonococcal infection in the lower female genital tract. We have previously shown that gonococci induce membrane ruffles upon infection of primary human cervical epithelial cells. The mechanism by which this is initiated is unclear. Complement Receptor Type 3 (CR3, CD11b/CD18)-mediated antigen internalization by macrophages and neutrophils is driven by actin rearrangements and occurs independently of a proinflammatory response. CR3 distribution is thought to be limited to immune cells; however, CR3 expression has been demonstrated in rectal epithelia. Microscopy and immuno-precipitation demonstrate CR3 expression in primary human cervical epithelial cells and its co-localization with *N. gonorrhoeae*. CR3 expression within the mucosal epithelium appears to decrease progressively from the cervix to the fallopian tubes. CR3 was not present in vas deferens or urethral tissue, primary male urethral cells, or immortalized genital epithelial cell lines (e. g. Me180, Hec1B, End1, HCK, and V428 cells). The gonococcal constituents, porin, opa, and pili co-precipitate with CR3. Attachment of gonococci to CR3-expressing K562 myeloid cells and invasion of CR3-transfected CHO cells can be inhibited by the presence of anti-CD11b antibody. Surface expression of CR3 increases in cervical cells in response to gonococcal infection. These studies suggest that CR3 serves as a receptor for *N. gonorrhoeae* during infection of the cervical epithelium. These studies also should aid other researchers studying host-parasite interactions of the human urogenital tract.

L31 ANSWER 6 OF 6 WPIDS (C) 2003 THOMSON DERWENT  
ACCESSION NUMBER: 1998-544514 [47] WPIDS  
DOC. NO. NON-CPI: N1998-423994  
TITLE: Ink jet printer containing head with jetting and substrate heaters - has two of enable line outputs coupled to second terminal of one jetting heater and second terminal of one substrate heater.  
DERWENT CLASS: P75 T04  
INVENTOR(S): EDWARDS, J; GIBSON, B D;  
PARISH, G K; EDWARDS, M J  
PATENT ASSIGNEE(S): (LEXM-N) LEXMARK INT INC  
COUNTRY COUNT: 29

10/066551

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
EP 873869	A2	19981028	(199847)*	EN	10
R: AL AT BE CH DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL					
PT RO SE SI					
JP 10278271	A	19981020	(199901)		8
CN 1197731	A	19981104	(199912)		
KR 98080754	A	19981125	(200005)		
US 6102515	A	20000815	(200041)		
MX 9802411	A1	19990101	(200051)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 873869	A2	EP 1998-302393	19980327
JP 10278271	A	JP 1998-100461	19980327
CN 1197731	A	CN 1998-108079	19980327
KR 98080754	A	KR 1998-10666	19980327
US 6102515	A	US 1997-827404	19970327
MX 9802411	A1	MX 1998-2411	19980327

PRIORITY APPLN. INFO: US 1997-827404 19970327

AN 1998-544514 [47] WPIDS

AB EP 873869 A UPAB: 19981125

The head (10) includes a substrate (16), while a nozzle plate (12) has a number of ink emitting orifices (14). A number of jetting heaters (18) is located on the substrate and respectively associated with the number of ink emitting orifices. At least one substrate heater (20) is associated with the substrate. Each of the jetting heaters and the substrate heaters include first and second terminals. A print head driver (30) has a number of energisable outputs, each of which includes at least one power line output (P1-P8) and at least two enable line outputs (A1-A13, BSHSEL).

One power line output is electrically connected to a first terminal of each of one the jetting heater and one the substrate heater. Two of the enable line outputs are coupled to a second terminal of the one jetting heater and a second terminal of the one substrate heater. During energising of the one power line output, one jetting heater and the one substrate heater may be selectively actuated by selectively energising the two enable line outputs.

ADVANTAGE - Allows selective actuating several of jetting heaters and/or substrate heater without use of separate driver of substrate heater.

Dwg.2/3

FILE 'HOME' ENTERED AT 12:14:34 ON 21 MAY 2003